DOCUMENT RESUME

ED 133 494 95 CE 009 336

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TITLE Career Stability and Redirection in Adulthood. Report No. 219.
INSTITUTION Johns Hopkins Univ., Baltimore, Md. Center for the Study of Social Organization of Schools.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
PUB DATE Nov 76
NOTE 38p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Adults; *Age; *Career Change; Career Choice; Economic Research; Employment Patterns; Employment Statistics; *Employment Trends; Females; Labor Turnover; Males; *Occupational Choice; *Occupational Mobility; Placement; Trend Analysis; Vocational Development
IDENTIFIERS United States

ABSTRACT

Age trends in 5-year career stability and change were examined in an approximately one-in-a-thousand sample of 21- to 70-year-old men and women workers. Data on current occupation and occupation five years earlier were collected by the Census Bureau and reorganized for this study using Holland's occupational classification. Career stability increased with age for both sexes, and age differences persisted even when the analyses were restricted to occupation changers or socioeconomically mobile workers. People initially employed in consistant occupations were more stable than those initially employed in inconsistent occupations. Some kinds of mid-career redirection were more common than others. Suggestions for industrial and counseling application and implications for vocational theory are discussed. Tables and references are included. (Author/WL)

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ED133494

Center for Social Organization of Schools

Report No. 219

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CAREER STABILITY AND REDIRECTION IN ADULTHOOD

Gary D. Gottfredson

The Johns Hopkins University

CE 009 336

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Published by the Center for Social Organization of Schools, supported in part as a research and development center by funds from the United States National Institute of Education, Department of Health, Education and Welfare. The opinions expressed in this publication do not necessarily reflect the position or policy of the National Institute of Education, and no official endorsement by the Institute should be inferred.

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Introductory Statement

The Center for Social Organization of Schools has two primary objectives: to develop a scientific knowledge of how schools affect their students, and to use this knowledge to develop better school practices and organization.

The Center works through three programs to achieve its objectives. The Schools and Maturity program is studying the effects of school, family, and peer group experiences on the development of attitudes consistent with psychosocial maturity. The objectives are to formulate, assess, and research important educational goals other than traditional academic achievement. The program has developed the Psychosocial Maturity (PSM) Inventory for the assessment of adolescent social, individual, and interpersonal adequacy. The School Organization program is currently concerned with authority-control structures, task structures, reward systems, and peer group processes in schools. It has produced a large scale study of the effects of open schools, has developed the Teams-Games-Tournament (TGT) instructional process for teaching various subjects in elementary and secondary schools, and has produced a computerized system for school-wide attendance monitoring. The School Process and Career Development program is studying transitions from high school to postsecondary institutions and the role of schooling in the development of career plans and the actualization of labor market outcomes.

This report examines trends in career stability and mid-career changes for males and females over a five-year period.

Abstract

Age trends in five-year career stability and change were examined in an approximately one-in-a-thousand sample of 21 to 70 year old men and women workers. Data on current occupation and occupation five years earlier were collected by the Census Bureau and reorganized for this study using Holland's occupational classification. Career stability increased with age for both sexes, and age differences persisted even when the analyses were restricted to occupation changers or socioeconomically mobile workers. People initially employed in consistent occupations were more stable than those initially employed in inconsistent occupations. Some kinds of mid-career redirection were more common than others. Suggestions for industrial and counseling application and implications for vocational theory are discussed.

Career Stability and Redirection in Adulthood

Our knowledge of adult career stability and change is incomplete or difficult to interpret, despite a variety of pioneering efforts (Holland, Sorensen, Clark, Nafziger & Blum, 1973; Lipset & Bendix, 1952; Nafziger, Holland, Helms & McPartland, 1974; Miller & Form, 1947; Parnes, 1954; Wilensky, 1961). Previous work has sampled limited age ranges, used ambiguous occupational classifications, treated all occupational changes as equivalent events, or not systematically examined age as a variable. Other evidence is anecdotal (Levinson, Darrow, Klein, Levinson & McKee, 1974; Mills, 1970; Rosenberg & Farrell, Note 1) or has focused primarily on the career development of adolescents and youth (Jordaan, 1974). Rarely have developmental speculations about adult careers been rigorously investigated (Hall & Mansfield, 1975).

Although the empirical base provides only fragments of evidence, speculation about adult careers is booming (Brim & Abeles, 1975; Havighurst, 1973; Holland & Gottfredson, in press; Pascal, 1975a; Super, Note 2). The present report attempts to provide comprehensive evidence relating to two of these developmental speculations: that typical careers may initially be unstable but become more stable with advancing age, and that career stability is fostered by work environments that make convergent demands on a worker.

Although previous research using psychological classifications of occupations implies that adult careers tend to be stable (Holland et al., 1973; Nafziger et al., 1974; Parsons, 1971), the best evidence relating age to career stability comes from the work of labor economists who organize occupational data in other ways (e.g., Parnes, 1954; Parnes, Adams, Andrisani, Kohen & Nestel, 1975; Byrne, 1975; & Saben, 1967). These researchers have examined the occupational or interfirm mobility of

workers of different ages and found mobility more common for younger than for older workers. Parnes and his associates have suggested that the lower mobility of older workers can be partly explained in terms of the increasing job security that comes with tenure, coverage by pension plans, job satisfaction and attachment, and monetary and labor market considerations.

In contrast to the work of these labor economists, the goal of the present research is to examine the stability of careers by classifying psychologically related occupations together. Not all occupational shifts are major shifts in the kind of work done or the demands made on a person by the job. Holland's (1973) occupational classification is used to provide a structure for distinguishing major career shifts from minor shifts that do not constitute important career redirection. This scheme classifies occupations into one of six categories--realistic, investigative, artistic, social, enterprising, and conventional. The details of the classification and its development are given in Holland's (1973) book.

This report uses employment data for large, nationally representative samples of employed adult men and women in an attempt to answer the following questions:

1. How stable are work histories in terms of the classification?
2. Are there differences in stability associated with the age of the worker?
3. Do certain kinds of occupations appear to promote orderly careers while others foster instability?
4. What kinds of mid-career shifts are most common?

Method

Employment Data

Civilian employment data were collected by the U.S. Bureau of the Census in 1970. The sampling unit was the housing unit, except for group quarters identified in advance where the unit was the person. Reports of 1970 employment and retrospective reports of 1965 employment were requested for every twentieth sampling

unit using a questionnaire called the 5% questionnaire. The questions about occupation are shown by the U.S. Bureau of the Census (1970, p. 18). Information about current occupation included a list of the most important activities or duties performed. Only an occupational title was recorded for the retrospective report of a person's 1965 activity. This information was subsequently coded by Census Bureau clerks into the 417 detailed occupational categories (three-digit census codes) used in the 1970 version of the Classified Index of Industries and Occupations (U.S. Bureau of the Census, 1971). Age-specific tabulations were made for workers aged 21-70 using tapes provided by the Census Bureau. The tapes contained a stratified 1/50 subsample of all 5% questionnaires (U.S. Bureau of the Census, 1972, pp. 2-7, 194-198), and therefore contained a 1/1000 sample of the population.

Detailed census codes for occupations were recoded according to Holland's classification by using the codes provided by Holland (1973), or by using Viernstein's (1972, table 4) procedure to obtain a code for titles not listed by Holland. Detailed census codes were also recoded into general educational development (GED) levels listed by the U.S. Department of Labor (1965).

When occupation was not reported the Census Bureau used demographic characteristics to allocate people to one of the major occupational categories (i.e., professional, technical and kindred; clerical; etc.) in the census classification. About 5.6% of the men and 6.6% of the women were allocated in this way. The percentage allocated within each of the major census groupings ranged from 3.6 to 11.7%--most being allocated in the laborer and service worker categories. All allocated cases were excluded from the analyses because the major census groupings are heterogeneous with respect to Holland category. Consequently, tabulations in the present report are for somewhat less than 1/1000 of the populations in question. To be included in the population a person must have been employed in both 1965 and 1970.

Statistical Considerations

Tables in this report summarize information about categorical agreement between occupations at two points in time using Cohen's (1960) kappa (κ) as an index of agreement. This index gives the ratio of observed proportionate agreement beyond chance to possible proportionate agreement beyond chance given the two marginal distributions across the six occupational categories. The maximum value that κ can take is 1.0. Because the samples are not simple random samples, the sampling variance of κ estimated using the formula presented by Fleiss, Cohen, and Everitt (1969) is inappropriate. The sampling variance of κ could be estimated by using Monte Carlo methods, but the expense of that procedure is unwarranted. Because of the generally large sample sizes and the opportunity to examine trends across sets of samples, questions of statistical significance of differences are less important than practical interpretations based on sizes of differences or patterns across samples. For this reason, and because appropriate estimates of variance are not available, significance levels are not shown in the tables. Even relatively small differences may be statistically significant.

Results

Age and Career Stability

Table 1 summarizes the results on five-year career stability for men and women engaged in civilian employment in both 1965 and 1970. People whose occupations at both times were in the same Holland category were considered stable, and those whose occupations were in different categories were considered unstable. Stability was assessed using simple percentage agreement, and because some agreement occurs merely by chance, κ was also used. These results imply that career stability increases markedly up to about the middle 30's, continues to increase at a slower rate up to about age 50 or 60, and remains at a high level up to age 70, the oldest age group studied.

Insert Table 1 About Here

Workers can have stable careers according to the classification by staying in the same job, staying in the same occupation (defined by a three-digit census code), or by changing from one occupation to another in the same classification category. Consequently, an important question is whether the categorical stability trends shown in Table 1 might be due entirely to the tendency for workers to stay in the same occupation. Indeed, earlier work (Byrne, 1975; Saben, 1965) demonstrates that younger workers are more occupationally mobile than older workers. In the present samples, the percentage of 21-25 year old workers with the same occupation in 1965 and 1970 was 32.7 for men and 54.9 for women. For the 61-65 year old workers these values were 77.3 and 78.2%. To check on the possiblity that occupational stability may account for all of the observed categorical stability, an additional analysis was performed. For reasons of economy this analysis used only a subset of the data--alternate age groups.

Table 2 shows the categorical stability of workers excluding all workers who were employed in the same occupation in 1965 and 1970. The results imply that workers who do shift occupations tend to shift to occupations that are in the same category as their previous occupation. The κs in this table indicate the degree of greater-than-chance agreement. The simple percentages of agreement can be misleading because they reflect in part chance agreement due to the massive base rates for employment in the realistic category for younger men. According to the κs workers in the youngest age group (21-25 years) who change occupations are less categorically stable than are the older workers.

Insert Table 2 About Here

A more stringent test of the usefulness of the classification for organizing data about careers is shown in Table 3. This table was prepared because there is an association between the socioeconomic levels of occupations and their categories according to the present classification (Gottfredson & Daiger, Note 3), and one could argue that the stability observed, even after excluding people in the same occupation, may be entirely due to the inability of workers to change levels of work. Table 3 excludes data for workers who were employed in occupations at the same GED level in 1965 and 1970. The κs imply that these occupational changes do tend to be orderly according to the classification, although the agreement between earlier and later occupational category is weaker than the agreement shown in Tables 1 and 2. Tables 2 and 3 show similar age patterns. Workers over 30 are more stable than younger workers. Once again, the percentages of agreement are misleading because they include agreement expected merely by chance given the base rates.

Insert Table 3 About Here

The results in Tables 1 to 3 imply that career stability in terms of kind of work is greater for older than for younger men and women. Some of this greater-than-chance stability reflects a tendency for people to remain in the same occupation, especially older people. Although staying in the same occupation is categorical stability, categorical stability is apparent even when only occupation changers are examined. Similarly, considering only people who changed both occupation and level of occupation, some tendency to remain in the same category persists.

Naturally, possible cohort differences may confound these analyses of age trends. There is no way to isolate this source of differences in a cross-sectional study. Although the tables show that the older workers in 1970 had more career stability than younger workers in 1970, some of this difference in stability may be due to

differences in the life experiences or circumstances of the people who grew up at different particular time periods.

Consistency and Career Stability

According to Holland's (1973) theory, some occupations are expected to promote career stability and others are expected to promote instability. Specifically, consistent occupations--those that make convergent or compatible demands--are expected to promote stability. An occupation is considered most consistent if the two environmental models the occupation most resembles are adjacent on Holland's (1973) hexagon. Occupations are of intermediate consistency if they resemble environmental models that are alternate on the hexagon, and they are of low consistency if they most resemble models that are opposite each other on the hexagon. People working in inconsistent occupations are expected to make more substantial shifts in occupation than people working in consistent occupations.

This hypothesis is examined in Table 4 for men and Table 5 for women. These tables show the career stability of workers whose 1965 occupations had two-letter codes of high, medium, or low consistency. The columns headed "% same" show the percentage of people in a given group whose 1965 and 1970 occupations were in the same category. The columns headed "% chance" show the percentage agreement expected in the same category based on the marginal distributions of occupations across the six categories in 1965 and 1970. These columns are included as an interpretive aid because the extremely high base rates in the realistic category for people with inconsistent occupations in 1965 (the most frequently occurring inconsistent two-letter occupational code is RS) made the expected agreement rate very high for these people. The column headed "κ" shows the ratio of greater-than-chance observed agreement to greater-than-chance possible agreement. For men in each age group, the κs indicate greatest categorical stability for workers with initial jobs of high consistency, and lowest categorical stability for men with initial jobs of low consistency. Stability for

workers with initial jobs of medium consistency is intermediate for each age group. The results for women generally conform to the same pattern as for men, but there are reversals in the relative size of κ for high and medium consistency initial occupations for the 31-35 and 51-55 year old women.

Insert Tables 4 and 5 About Here

Mid-Career Redirection

Table 6 summarizes information on the frequency of shifts among occupational categories for workers aged 41-55. For men the most frequent shift was from realistic work to enterprising work--a shift from technical occupations to occupations involving primarily managerial, supervisory, or persuasive work with people. Of all shifts for 41 to 55 year-old men, 25% were from realistic to enterprising work. Women moved frequently between the enterprising and conventional or the realistic and conventional categories, and a small net shift in the direction of enterprising occupations also occurred.

Insert Table 6 About Here

Discussion

The present report provides a description in structural terms of the development of career stability in adulthood. The results rely on the most comprehensive occupational data available. At the same time, the results have the following limitations: (a) estimates of the degree of 5-year categorical change are low because of the probability that some workers left and re-entered a category during the interval; (b) the use of retrospective reporting of earlier employment may introduce recall errors; (c) age trends are confounded with possible cohort differences due to the cross-sectional nature of the study; and (d) only the career stability of people employed

in both 1965 and 1970 is examined. This last limitation means that a variety of additional meanings of mobility or stability (Parnes, 1954) are not examined. For example, mobility into and out of the labor force is ignored. Examining only people who were employed at two points in time makes interpretations difficult to extend to workers--including many women--who enter the labor force at an advanced age or who move into and out of the labor force.

Age and Career Stability

The results document that career stability increases with age, and are consistent with developmental speculations of Holland and Gottfredson (in press). These authors assume that a worker's career options become narrowed because of the cumulative effects of past experiences and choices, and because of the way a person's work history influences prospective employers' perceptions. Similarly, the increasing stability with age, combined with data about age trends in job satisfaction (Quinn, Staines & McCullough, 1974), agrees with theoretical expectations that people will find congruent jobs. This explanation requires the assumption that person-occupation congruence is greater for older people. Evidence on this point is still lacking, although evidence for samples of youth (McLaughlin & Tiedeman, 1974) suggests that person-job congruence may increase with age for people in the first few years after high school.

Other developmental speculations also receive support. Tables 1 to 3 provide comprehensive normative information for assessing the frequency of "unstabilized" or "floundering" careers in Super's terms (Super, Kowalski & Gotkin, 1967; Jordann, 1974; Super, Note 2), and they suggest that substantial instability is common until the late 30's, but not thereafter.

The present results help clarify some apparently conflicting results from earlier

research. Holland et al. (1973) used data on current occupation and occupation five years earlier for a sample of 757 men, 30 to 39 years old. The value of κ calculated from their table for this five-year prediction is .55. Nafziger et al. (1972, table 3) show cross-tabulations for 1968 by 1965 occupation--a three-year interval--according to Holland category for 1369 white men aged 14 to 24. The value of κ calculated from their table is .39. The present results (Table 1) on increasing stability with age provide a background for interpreting these earlier results. Greater efficiency of previous occupation in forecasting the category of later occupation is obtained with older people. This makes sense of the otherwise puzzling κ of .55 over five years obtained by Holland et al. and the κ of only .39 obtained by Nafziger et al. for a three-year interval; the explanation is that the Holland et al. sample was substantially older.

The results also provide a context for integrating other developmental research in the structural tradition. Taken together this research implies that vocational behavior becomes more stable with age. This evidence comes from three sources: (a) The retest reliability of measured vocational interests is greater for people first tested at older ages. Campbell (1971) shows median 11-to-20 year retest reliabilities rising from .64 for initial testings at age 17 to 18 to .80 for initial testings at age 26 and over. (b) Predictions of subsequent occupational category using categorized expressed choice is more efficient for older than for younger people (McLaughlin & Tiedeman, 1974). And (c) The categorical stability of occupational transitions is greater for older workers, according to the present results.

The results have several implications for evaluating Holland's occupational classification. Earlier work has shown that the occupations in a man's work history tend to be orderly in terms of the classification (Holland et al., 1973; Nafziger et al., 1974; Parsons, 1971). The present research extends this earlier work by

showing that: (a) the classification organizes the work histories of older people more efficiently than those of young people; (b) the classification applies to both women and men; (c) the classification appears sensitive to developmental trends; (d) the classification works even when only occupation changers and level changers are included in the analyses. In short, reservations (Osipow, 1973; Super, Note 2; Walsh, 1973) about the classification's applicability to adult men and women and to developmental problems are no longer appropriate.

Mid-Career Shift

Some results on category changes may add to an understanding of mid-career shifts. Information about the nature of these shifts is important because the evidence now available is largely anecdotal (Pascal, 1975b). One reason for the lack of data is the lack of a definition of a career shift (Pascal, 1975b). Pascal and the authors he reviews recognize that a progression from typist to secretary, for example, does not constitute redirection, but at the same time they cannnot say with assurance what does. In contrast, Holland's classification provides a systematic way to define redirection in kind of work. The categories and their relations on the hexagon provide a technique for assessing degrees of redirection. Nevertheless, the definition of redirection provided by the classification does not cover all aspects of redirection. For example, some of the shifts discussed by Pascal, e.g. laboratory technician to physician, are large changes in level rather than shifts in kind of work. Similarly, some changes to new occupations at the same level and in the same category (e.g. a change from renal to cardiac surgeon) may require extensive retraining. The present definition does not consider these changes redirection because the occupations are representatives of the same kind and level and are therefore expected to present new environments similar to the past environments of workers who make these shifts. At the same time, this kind of shift is expected to be rare.

What does the evidence on mid-life career change imply? First, not only did about 75% of the men and about 70% of the women aged 41 to 55 have the same occupation in 1965 as in 1970, but among those who changed occupation almost 60% remained in the same category of work. Nevertheless, category shifting did occur for about 10-14% (Table 1). The relative frequency of shifts from realistic to enterprising work among men is interesting because this kind of shift in terms of Holland's hexagonal model is a large shift in the nature of the work done and the demands made on the worker. The shifts most common among women--exchanges between the enterprising and conventional, and the realistic and conventional categories--are relatively minor shifts according to the hexagonal model.

The frequency of men changing from realistic to enterprising work is interesting not only because of its psychological magnitude according to Holland's classification, but also because case studies on mid-career crises (people having major difficulties adjusting in mid-life) can often be reinterpreted in terms of the classification. The two case studies presented by Rosenberg and Farrell (Note 1) are examples of difficulty in making realistic to enterprising shifts. In addition, both men in the case studies appear to have histories of poor interpersonal skills--skills that are required for enterprising work.

In the case of women, the relative infrequency of major shifts--shifts to categories of work distant on the hexagon--suggests that mid-life redirection problems for women may involve other kinds of difficulty. The few examples given by Pascal (1975b) appear consistent with the speculation that mid-career problems for women more often focus on entry into the workforce after a change in life circumstances--e.g., women going to work after the death of a husband or after the children have left home.

If these interpretations are correct, one implication for attempting to facilitate people's vocational adjustment would be to help men who are shifting from realistic to enterprising work to develop greater interpersonal skills. These

skills are relatively unimportant for realistic work but are very important for enterprising work. Or, it may be appropriate to help men adjust to their lack of interpersonal skills by choosing appropriate alternative work. The few men experiencing mid-career redirection (Table 1) are often making major shifts in the kind of work they do (Table 6).

For women, a more straightforward attempt at person-job matching may be more appropriate. Because women do not appear to make major career shifts very often, and because we know that they sometimes have special problems related to entry into the labor market at an advanced age, women at midlife may more often be facing tasks similar to those of Super's establishment stage--settling down in an occupation--or even the tasks of the late exploratory stage--trying out their vocational choices to learn whether their choices are satisfactory.

Because women's careers show even greater categorical stability than men's, it is plausible that some of this greater stability is due to a narrower range of career options for women. In other words, once a woman enters a category of work there may be more obstacles to change than there are for men. Alternatively, men may seek redirection more often than women. Unfortunately, the present data do not allow an examination of these possibilities.

Consistency and Stability

The categorical stability found for workers whose initial jobs were more consistent supports a hypothesis derived from Holland's theory--occupations that make divergent demands and provide divergent rewards are expected to promote instability. The present results extend the findings of related studies of consistency. Holland (1968) found that students' personal consistency (based on Vocational Preference Inventory codes) moderated the prediction of vocational choice--consistent male college students were more predictable. In a study limited to investigative types, O'Neil (1975) found that college students who resembled the investigative type, according to their Self-Directed Search profiles, more often expressed investigative preferences

four years later if their profiles were consistent rather than inconsistent. As part of a larger study, Holland et al. (1973) studied men whose first full-time jobs were in the realistic category and found that men with consistent occupational codes were more likely to be employed in realistic work five and ten years later. Nafziger et al. (1974) also found that consistency of earlier jobs was related to categorical stability for white men, but not black men. And Gottfredson and Lipstein (1975) found that parolees who claimed occupations that were inconsistent had more job instability than did those with consistent occupations. The present research extends these findings to women as well as men, to a broad age range of workers, and to all three levels of consistency. In addition, the present report uses a more appropriate index of agreement than did the earler studies in which the degree of agreement observed was confounded by the degree of agreement expected simply by chance. The results provide strong support for the construct of consistency.

Taken together, the evidence about occupational consistency now implies some potential industrial and placement applications. Because inconsistent occupations appear to promote instability, one application would be to redesign jobs where turnover or dissatisfaction is a problem to try to make the jobs more consistent. Similarly, the histories of people with apparent poor work adjustment could be examined to determine if they have held a succession of inconsistent jobs. These people may show greater stability if employed in consistent occupations.

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Table 1

Agreement of 1965 and 1970 Occupational Category for Employed Civilians

Age in 1970	Men			Women		
	% same	κ	*n*	% same	κ	*n*
21-25	74.6	.37	1915	72.3	.54	1169
26-30	76.6	.57	3547	79.4	.70	1476
31-35	82.2	.70	3760	83.2	.76	1253
36-40	87.3	.79	3883	85.5	.80	1487
41-45	87.9	.80	4271	86.8	.81	1827
46-50	89.9	.82	4165	89.1	.84	2053
51-55	90.7	.83	3664	89.2	.85	1899
56-60	91.3	.84	3162	90.3	.86	1585
61-65	91.0	.83	1937	90.0	.86	957
66-70	91.2	.84	781	90.9	.88	353

Table 2

Categorical Agreement of Occupations of Employed Civilians Whose 1970 Occupation Differed from Their 1965 Occupation

Age in 1970	Men			Women		
	% same	κ	*n*	% same	κ	*n*
21-25	62.2	.12	1289	49.5	.21	642
31-35	56.8	.30	1553	56.7	.38	487
41-45	56.6	.31	1188	58.4	.40	582
51-55	60.8	.31	872	58.2	.41	491
61-65	60.4	.29	439	54.1	.36	209

Table 3

Categorical Stability of Employed Civilians Who Changed General Educational Development Level of Occupation Between 1965 and 1970

Age in 1970	Men			Women		
	% same	κ	*n*	% same	κ	*n*
21-25	58.2	.10	913	47.2	.20	417
31-35	53.8	.26	1041	49.8	.29	285
41-45	53.9	.27	793	52.4	.32	355
51-55	57.2	.26	573	50.7	.31	276
61-65	56.8	.23	280	43.0	.33	128

Table 4

Five-Year Categorical Stability of Men Whose Initial Jobs Were of Low, Medium, or High Consistency

Age Group	Consistency											
	Low				Medium				High			
	% same	% chance	κ	*n*	% same	% chance	κ	*n*	% same	% chance	κ	*n*
21-25	73.8	72.5	.05	306	51.7	30.2	.31	201	78.0	63.0	.40	1408
31-35	86.7	77.7	.40	413	75.2	26.2	.66	468	82.7	39.2	.72	2879
41-45	93.6	82.8	.63	500	81.8	27.8	.75	605	88.2	40.0	.80	3166
51-55	93.2	82.2	.62	471	86.8	30.4	.81	525	91.0	43.5	.84	2668
61-65	93.7	84.2	.60	269	83.9	28.3	.78	279	91.9	45.9	.85	1389

Table 5

Five-Year Categorical Stability of Women Whose Initial Jobs Were of Low, Medium, or High Consistency

Age Group	Consistency											
	Low				Medium				High			
	% same	% chance	κ	*n*	% same	% chance	κ	*n*	% same	% chance	κ	*n*
21-25	44.9	31.8	.19	156	83.0	65.8	.50	513	69.8	31.5	.56	500
31-35	76.9	48.9	.55	143	86.2	43.0	.76	516	82.0	26.9	.75	594
41-45	80.7	49.8	.62	197	89.0	41.5	.81	654	86.5	26.8	.82	976
51-55	85.5	47.5	.72	207	93.2	41.3	.88	652	87.4	26.1	.83	1040
61-65	80.5	46.6	.63	128	92.2	38.4	.87	345	90.9	25.9	.88	484

Table 6

Category of 1970 Occupation by Category of Occupation Five Years Earlier for Workers Aged 41-55 in 1970

Occupation 5 Yrs. Earlier	1970 Occupation R	I	A	S	E	C	Total
Men							
Realistic (R)	7009 --	104 (8.2)	9 (.7)	55 (4.3)	317 (24.8)	77 (6.0)	7571
Investigative (I)	57 (4.5)	699 --	4 (.3)	13 (1.0)	49 (3.8)	5 (.4)	827
Artistic (A)	6 (.5)	4 (.3)	152 --	1 (.1)	14 (1.1)	2 (.2)	179
Social (S)	37 (2.9)	18 (1.4)	7 (.6)	600 --	37 (2.9)	17 (1.3)	716
Enterprising (E)	180 (14.1)	28 (2.2)	12 (.9)	32 (2.5)	1881 --	58 (4.5)	2191
Conventional (C)	56 (4.4)	12 (.9)	4 (.3)	10 (.8)	54 (4.2)	480 --	616
Total	7375	865	188	711	2352	639	12100
Women							
Realistic	1668 --	5 (.8)	1 (.2)	51 (7.6)	58 (8.7)	121 (18.1)	1904
Investigative	1 (.2)	62 --	0 (.0)	5 (.8)	2 (.3)	7 (1.0)	77
Artistic	0 (.0)	1 (.2)	44 --	2 (.3)	5 (.8)	2 (.3)	54
Social	32 (4.8)	6 (.9)	8 (1.2)	1072 --	15 (2.2)	42 (6.3)	1175
Enterprising	30 (4.5)	0 (.0)	0 (.0)	20 (3.0)	286 --	46 (6.9)	382
Conventional	88 (13.1)	6 (.9)	3 (.4)	38 (5.7)	75 (11.2)	1977 --	2187
Total	1819	80	56	1188	441	2195	5779

Note. Parentheses show percentages of all category changers who made each transition.

Appendix A

Detailed Tabulations for Occupation Changers

These tables form the basis for the text tables that summarize the categorical stability and change of workers who changed their occupations between 1965 and 1970. They provide normateive data on the relative frequency of categorical shifts of different kinds for people of different ages.

Table A-1

Category of 1970 Occupation by Category of 1965 Occupation for Men and Women with Different Occupations at the Two Times: Workers Aged 21-25 in 1970

Occupation in 1965	1970 Occupation						
	R	I	A	S	E	C	Total
				Men[a]			
Realistic (R)	761	49	7	42	119	67	1045
Investigative (I)	11	3	0	1	6	0	21
Artistic (A)	4	2	0	2	0	1	9
Social (S)	27	2	0	4	6	1	40
Enterprising (E)	40	5	1	5	16	12	79
Conventional (C)	42	6	1	5	23	18	95
Total	885	67	9	59	170	99	1289
				Women[b]			
Realistic	73	3	2	26	16	80	200
Investigative	0	1	0	0	0	0	1
Artistic	2	0	0	1	0	2	5
Social	21	4	0	20	5	23	73
Enterprising	3	0	1	1	3	5	13
Conventional	36	9	7	39	38	221	350
Total	135	17	10	87	62	331	642

Note. This table includes only those workers whose 3-digit census code for their 1970 occupation differed from the code for their 1965 occupation. Underlining shows frequencies in the same category at both times.

[a] 62.2% agreement, $\kappa = .116$, $p < .001$, est. $Var(\kappa) = .000374$.

[b] 49.5% agreement, $\kappa = .206$, $p < .001$, est. $Var(\kappa) = .000721$.

Table A-2

Category of 1970 Occupation by Category of 1965 Occupation for Men and Women with Different Occupations at the Two Times: Workers Aged 31-35 in 1970

Occupation in 1965	1970 Occupation						
	R	I	A	S	E	C	Total
			Men[a]				
Realistic (R)	669	75	6	31	168	28	977
Investigative (I)	29	34	1	7	25	6	102
Artistic (A)	3	2	7	3	5	1	21
Social (S)	21	10	5	49	30	8	123
Enterprising (E)	73	11	4	14	97	20	219
Conventional (C)	24	5	3	10	42	27	111
Total	819	137	26	114	367	90	1553
			Women[b]				
Realistic	89	0	0	20	11	33	153
Investigative	1	2	0	3	0	3	9
Artistic	1	0	2	1	0	0	4
Social	11	2	3	52	5	17	90
Enterprising	3	0	1	1	5	13	23
Conventional	36	3	2	24	17	126	208
Total	141	7	8	101	38	192	487

Note. This table includes only those workers whose 3-digit census code for their 1970 occupation differed from the code for their 1965 occupation. Underlining shows frequencies in the same category at both times.

[a] 56.8% agreement, $\kappa = .303$, $p < .001$, est. $Var(\kappa) = .000305$.

[b] 56.7% agreement, $\kappa = .379$, $p < .001$, est. $Var(\kappa) = .000962$.

Table A-3

Category of 1970 Occupation by Category of 1965 Occupation for Men and Women with Different Occupations at the Two Times: Workers Aged 41-45 in 1970

Occupation in 1965	1970 Occupation						
	R	I	A	S	E	C	Total
				Men[a]			
Realistic (R)	487	40	7	24	133	32	723
Investigative (I)	21	18	2	5	25	4	75
Artistic (A)	3	3	5	1	5	0	17
Social (S)	16	8	4	43	16	2	89
Enterprising (E)	69	11	4	9	95	18	206
Conventional (C)	13	6	4	5	26	24	78
Total	609	86	26	87	300	80	1188
				Women[b]			
Realistic	132	2	1	19	18	50	222
Investigative	1	0	0	2	2	6	11
Artistic	0	0	0	0	2	2	4
Social	15	3	1	47	9	11	86
Enterprising	7	0	0	5	11	14	37
Conventional	31	3	0	10	28	150	222
Total	186	8	2	83	70	233	582

Note. This table includes only those workers whose 3-digit census code for their 1970 occupation differed from the code for their 1965 occupation. Underlining shows frequencies in the same category at both times.

[a] 56.6% agreement, $\kappa = .310$, $p < .001$, est. $Var(\kappa) = .000410$.

[b] 58.4% agreement, $\kappa = .403$, $p < .001$, est. $Var(\kappa) = .000768$.

Table A-4

Category of 1970 Occupation by Category of 1965 Occupation for Men and Women with Different Occupations at the Two Times: Workers Aged 51-55 in 1970

Occupation in 1965	1970 Occupation						
	R	I	A	S	E	C	Total
				Men[a]			
Realistic (R)	417	34	1	15	82	22	571
Investigative (I)	15	8	1	2	10	1	37
Artistic (A)	2	0	1	0	4	0	7
Social (S)	6	8	0	18	9	4	45
Enterprising (E)	57	7	6	8	70	15	163
Conventional (C)	15	0	0	3	15	16	49
Total	512	57	9	46	190	58	872
				Women[b]			
Realistic	102	1	0	15	19	28	165
Investigative	0	1	0	1	0	0	2
Artistic	0	1	0	0	2	0	3
Social	9	1	4	46	5	17	82
Enterprising	6	0	0	7	16	19	48
Conventional	32	2	0	16	20	121	191
Total	149	6	4	85	62	185	491

Note. This table includes only those workers whose 3-digit census code for their 1970 occupation differed from the code for their 1965 occupation. Underlining shows frequencies in the same category at both times.

[a] 60.8% agreement, $\kappa = .306$, $p < .001$, est. Var(κ) = .000622.

[b] 58.2% agreement, $\kappa = .412$, $p < .001$, est. Var(κ) = .000914.

Table A-5

Category of 1970 Occupation by Category of 1965 Occupation for Men and Women with Different Occupations at the Two Times: Workers Aged 61-65 in 1970

Occupation in 1965	1970 Occupation						
	R	I	A	S	E	C	Total
				Men[a]			
Realistic (R)	219	8	0	6	30	12	275
Investigative (I)	14	2	0	1	5	3	25
Artistic (A)	1	0	0	1	3	0	5
Social (S)	11	3	2	7	4	0	27
Enterprising (E)	30	4	1	8	25	7	75
Conventional (C)	8	2	0	3	7	12	32
Total	283	19	3	26	74	34	439
				Women[b]			
Realistic	45	3	0	16	4	14	82
Investigative	1	0	0	1	0	1	3
Artistic	0	0	0	1	1	2	4
Social	12	0	2	16	3	5	38
Enterprising	3	0	0	2	6	10	21
Conventional	6	0	1	2	6	46	61
Total	67	3	3	38	20	78	209

Note. This table includes only those workers whose 3-digit census code for their 1970 occupation differed from the code for their 1965 occupation. Underlining shows frequencies in the same category at both times.

[a] 60.4% agreement, $\kappa = .287$, $p < .001$, est. Var(κ) = .001154.

[b] 54.1% agreement, $\kappa = .364$, $p < .001$, est. Var(κ) = .001989.

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